ACC.14
TCT@ACC-i2 | innovation in intervention

A27
JACC April 1, 2014
Volume 63, Issue 12

Acute Coronary Syndromes

PREDICTORS ASSOCIATED WITH ACUTE STENT THROMBOSIS AFTER PRIMARY PCI: THE EUROMAX TRIAL

Oral Contributions
Room 147 B
Saturday, March 29, 2014, 9:15 a.m.-9:30 a.m.

Session Title: Antiplatelet Therapy in ACS: Challenges and Controversies
Abstract Category: 3. Acute Coronary Syndromes: Therapy
Presentation Number: 901-08

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Background: Acute stent thrombosis (AST) after primary PCI (pPCI) for ST-segment elevation myocardial infarction (STEMI) is a rare event occurring in ≤1% of patients. We determined clinical, procedural and treatment related factors associated with AST in EUROMAX.

Methods: EUROMAX included 2198 patients transported for pPCI. Baseline, clinical and procedural characteristics and treatment strategies [P2Y12 inhibitor choice, bivalirudin with reduced dose post-PCI infusion (0.25 mk/kg/h, BIV-Lo) vs. bivalirudin with prolonged PCI dose (1.75 mg/kg/h, BIV-PCI) vs. heparins ± GPI] were compared between patients with or without AST using the Chi-Square test. Logistic regression was performed using a forward stepwise procedure to select candidate variables.

Results: The overall rate of AST was 0.6% and was higher with bivalirudin vs. heparins ± GPI (1.1% vs. 0.2%; P = 0.007). The median time for AST was 2.3 hours (IQR 1.9-2.8). Patients with AST vs. without AST had less hypertension [2/14, (14%); 961/2182 (44.0%), p=0.03], and were more likely to have received GPI [11/14 (78.6%); 880/2183 (40.3%), p=0.004]. Of the patients in the bivalirudin arm with AST, 3 did not receive a prolonged infusion and among the 9 who did, 8 received BIV-Lo and 1 BIV-PCI. Multivariate analysis found hypertension (OR 0.21, p=0.047) and receipt of BIV-Lo (OR 7.7, p=0.009) as predictors of AST. Incidence of AST in BIV-PCI as compared with heparins ± GPI was [1/191 (0.5%) vs 2/947 (0.2%), p=0.46]. The rate of AST in BIV-Lo was significantly higher than heparins ± GPI [8/659 (1.2%) vs 2/947 (0.2%), p=0.03]. Oral P2Y12 inhibitor choice (clopidogrel vs. prasugrel vs. ticagrelor) had no impact on AST.

Conclusion: This post-hoc analysis from EUROMAX suggests that AST happens in the first few hours after pPCI and that neither the new oral P2Y12 inhibitors (prasugrel or ticagrelor) nor a low-dose (0.25 mg/kg/h) bivalirudin infusion are protective. However, prolonging bivalirudin infusion at the PCI dose was not associated with a higher risk of AST.